

# Work Order ID 68137

Thursday, April 07, 2011 7:41:19 AM



Page 1

Item ID: D2600-3-BENT

Accept



Setup Start



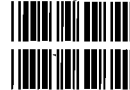
Revision ID:

Stop



Item Name: Extrusion Bent

Start Date: 4/7/2011 Start Qty: 10.00



Cust Item ID:

Required Date: 4/12/2011 Req'd Qty: 10.00



Customer:

Reference:

Approvals:

Process Plan:

*CL*

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2600

Rev D1

D2750

F

100

0.00



CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

0.00

Pick qty 1 D2600-3-120 extrusion

1-Deburr one end of extrusion

2-Bend using CNC bending machine as per program 2750.C and Folio 14 use bending aid DT9635

3- cut fwd end of tube as per dwg D2750

4- cut aft end of tube as per dwg D2750

110



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

*BB* *11/04/19*  
*DP* *11-4-19* *(10)*  
*1 0 - BEN 11/04/19*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 68137**

Thursday, April 07, 2011 7:41:19 AM



Page 2

Item ID: D2600-3-BENT

Accept



Setup Start



Revision ID:

Stop



Item Name: Extrusion Bent

Start Date: 4/7/2011 Start Qty: 10.00



Cust Item ID:

Required Date: 4/12/2011 Req'd Qty: 10.00



Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

Identify as per dwg &amp; Stock Location: 46

0.00

DP

11-4-19

10



Packaging

Memo

0.00

Packaging

130

QC21- Final Inspection - Work Order Release

0.00

11/4/19



QC

Memo

0.00

Quality Control

ME

11-04-19

# Picklist Print

Thursday, April 07, 2011 7:41:16 AM

Page 1

Work Order ID: 68137

Parent Item: D2600-3-BENT

Parent Item Name: Extrusion Bent



Start Date: 4/7/2011

Required Date: 4/12/2011

Start Qty: 10.00

Required Qty: 10.00

## Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2600-3-120

Manufactured

No

100

Each

33.0000

1

10



Extrusion Round 3" 350

### Location

### Loc Qty

### Loc Code

HALL

23

43960

23

LG

10

43960

1

58480

9

28

11/4/19  
11-4-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2600	REV. D SHEET 1 OF 5
DATE 98.08.20		TITLE EXTRUSION SCALE 1:1	
A	97.01.21	NEW ISSUE	
B	97.09.09	CHANGE MATERIAL SPEC.	
C	98.04.16	ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO.	
D	98.08.20	INCREASE MIN. UTS TO 40 KSI	
DI	01.04.17	ADD PART NUMBERS + DIE NUMBERS <i>FCP</i>	

RELEASED  
98.08.25 DS

### GENERAL NOTES

1. MATERIAL: 6061-T6 (QQ-A-200/8)

MINIMUM YIELD TENSILE STRENGTH = 35 ksi  
MINIMUM ULTIMATE TENSILE STRENGTH = 40 ksi  
MINIMUM ELONGATION = 8 %

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES.

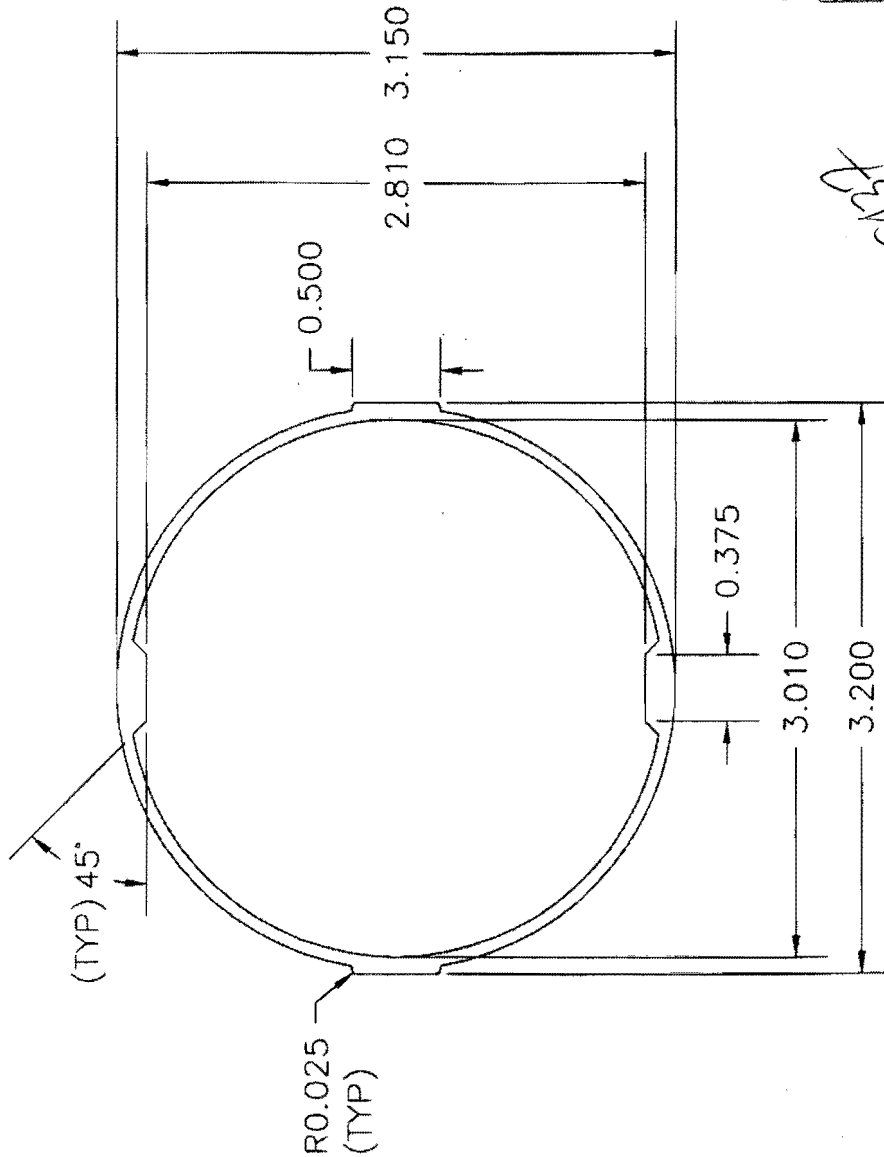
2. BREAK ALL SHARP CORNERS 0.010 MAX.
3. NO TOOLING MARKS.
4. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS ARE IN INCHES.

*W/O*  
*6/8/37*



DESIGN <i>DP</i>	DRAWN BY <i>DP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>DP</i>	DRAWING NO. D2600	REV. D SHEET 2 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1

RELEASED  
98.8.25 DS



D2600-1

MANUFACTURED WITH CARADON INDALEX DIE # MH-18870

OR BON L DIE # 897121 (PREFERRED CHOICE)

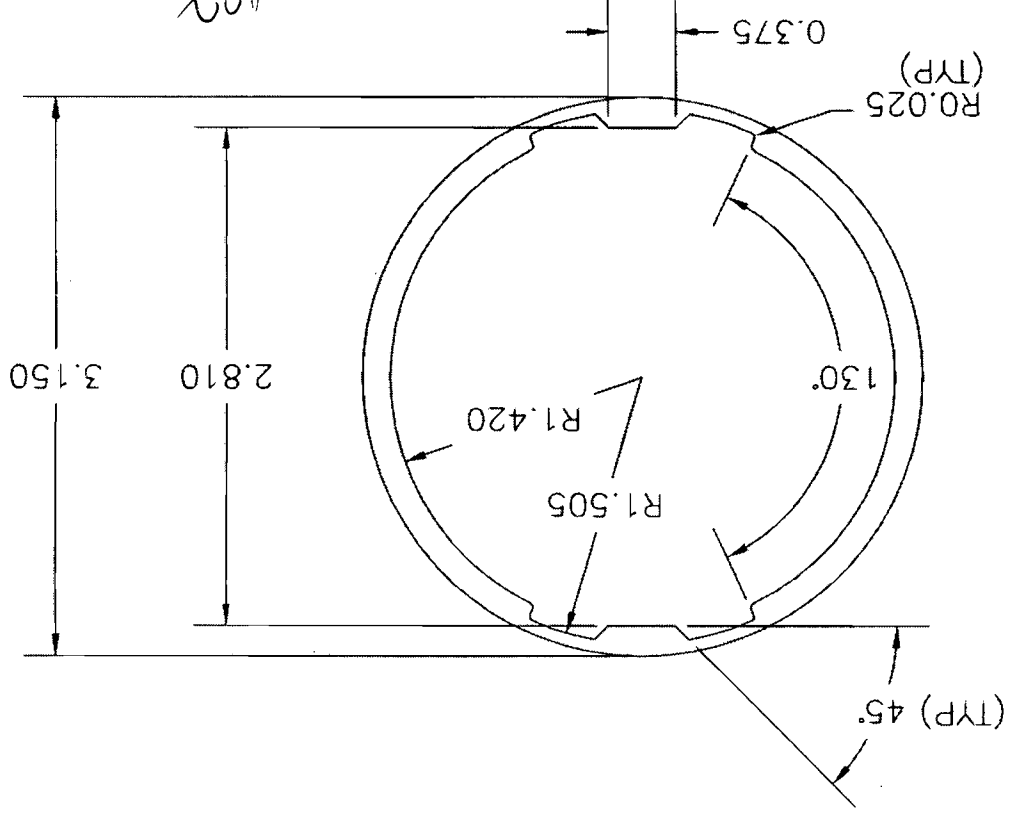
PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-1-160 IS 160" LONG)





DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2600	REV. D SHEET 3 OF 5
DATE 98.08.20	TITLE EXTRUSION		
		SCALE 1:1	

RELEASED  
98 8 25 DS



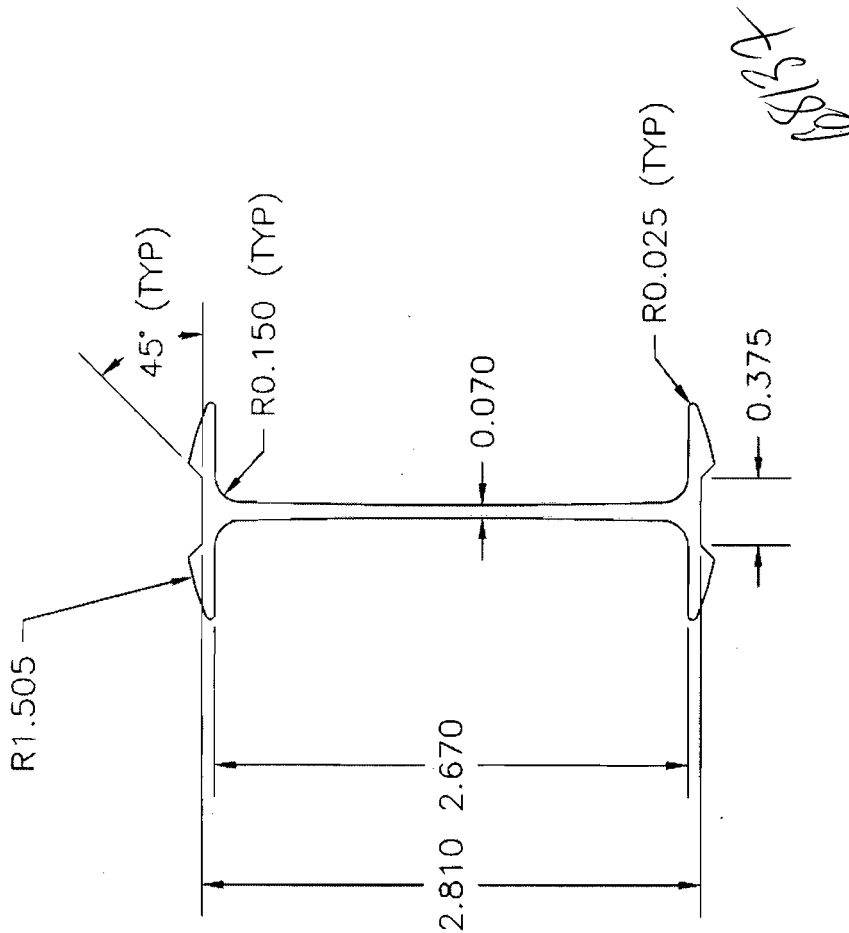
MANUFACTURED WITH CARADON INDALEX DIE # MH-18859  
OR BON L DIE # 897122 (PREFERRED CHOICE)  
PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-3-120 IS 120" LONG)





DESIGN <i>MA</i>	DRAWN BY <i>MA</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>KE</i>	DRAWING NO. D2600	REV. D SHEET 4 OF 5
DATE 98.08.20	TITLE EXTRUSION		SCALE 1:1

RELEASED  
98 8 25 DS



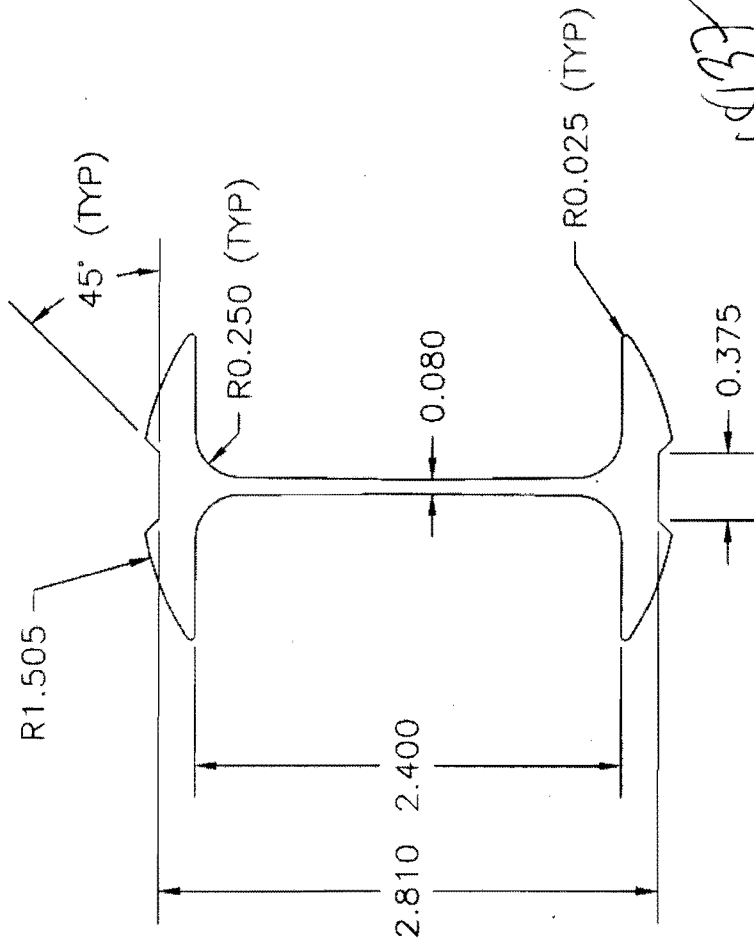
D2600-5  
MANUFACTURED WITH CARADON INDALEX DIE # MS-18871  
PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH IN INCHES  
(EG. D2600-5-108 IS 108" LONG)





DESIGN <i>KE</i>	DRAWN BY <i>AS</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>AS</i>	DRAWING NO. D2600	REV. 0 SHEET 5 OF 5
DATE 98.08.20	TITLE EXTRUSION		SCALE 1:1

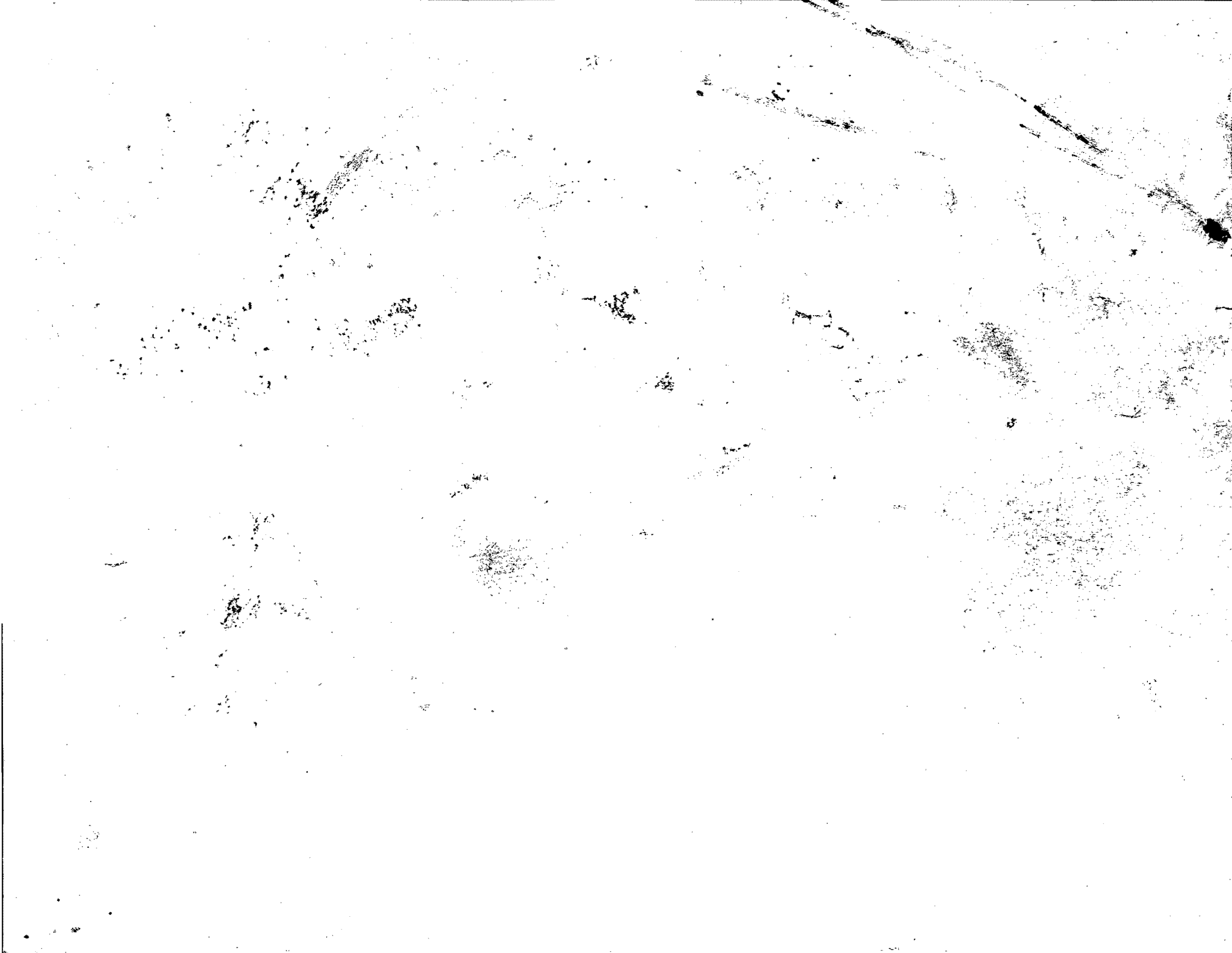
RELEASED  
98.8.25 DS



D2600-7

MANUFACTURED WITH CARADON INDALEX DIE # MS-18872  
PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH IN INCHES  
(EG. D2600-7-125 IS 125" LONG)





8 7 6 5 4 3 2 1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 68137  
CL11/04/19

RELEASED

# GENERAL NOTES:

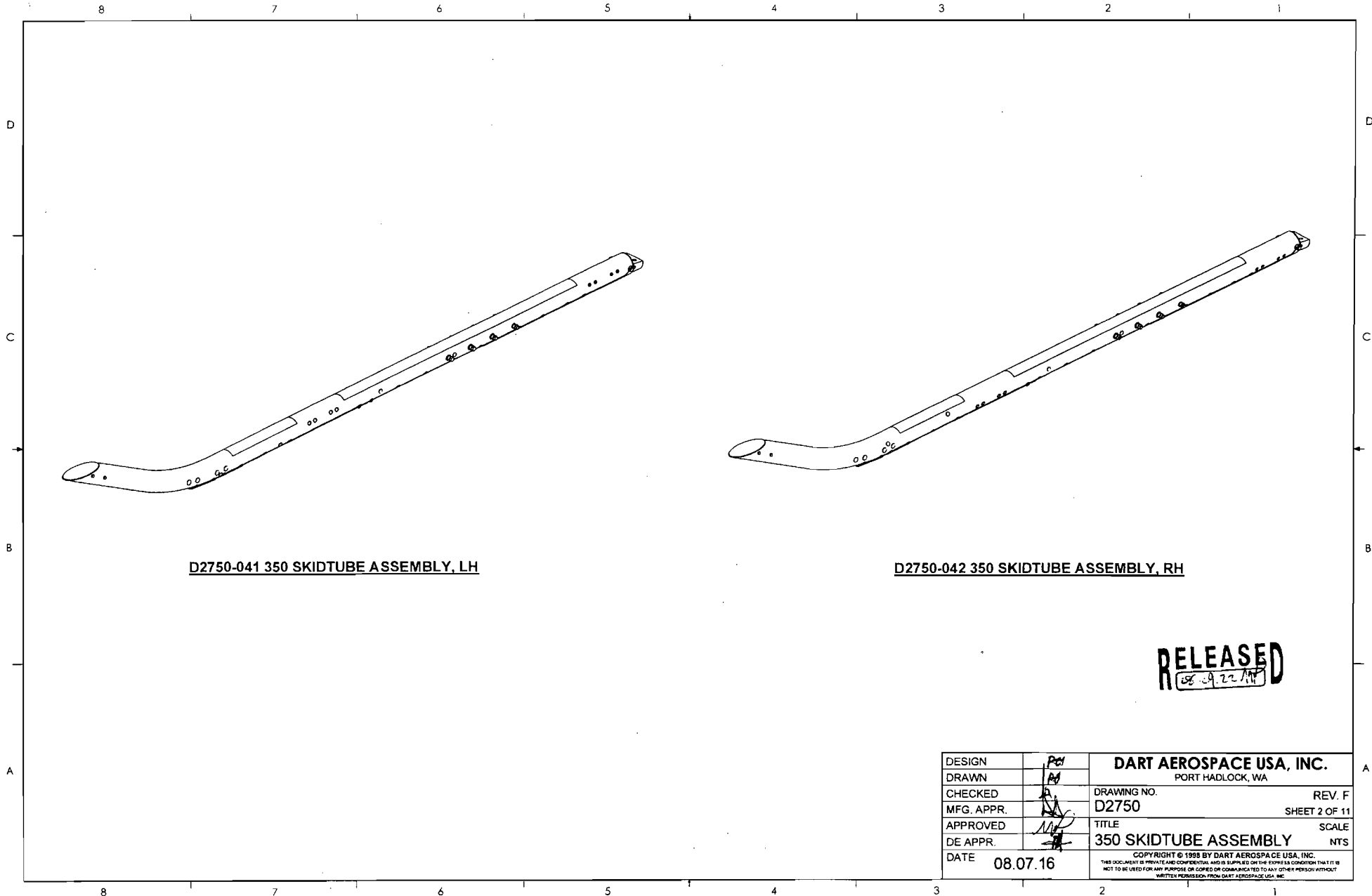
- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:  
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ( $\phi 0.297$ ) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

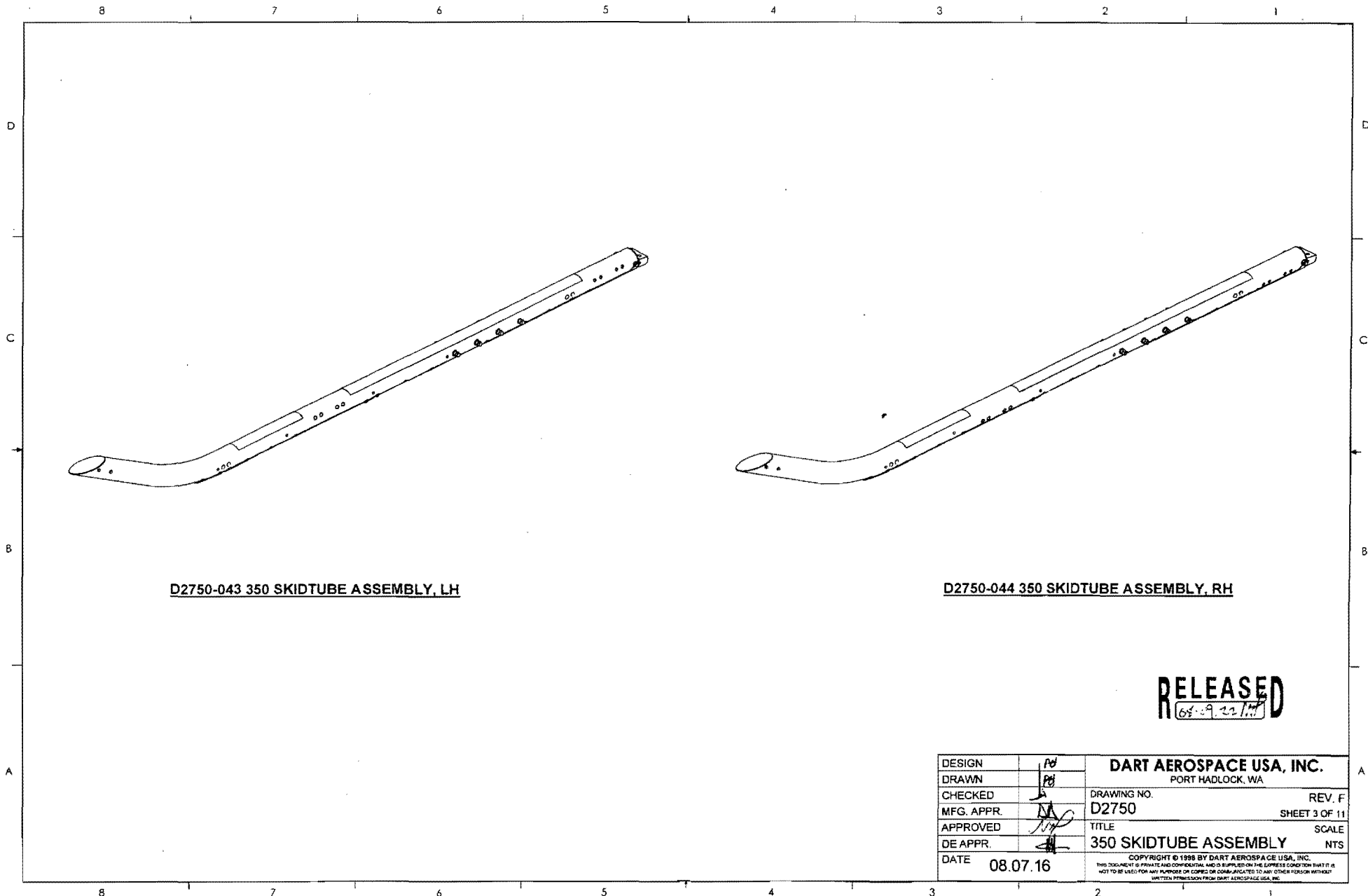
F	INCORPORATE DSI 9413: QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.07.16		

DART AEROSPACE USA, INC.  
PORT HADLOCK, WA

DRAWING NO. D2750  
REV. F  
SHEET 1 OF 11  
TITLE 350 SKIDTUBE ASSEMBLY  
SCALE NTS

COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.  
THIS DOCUMENT IS PRELIMINARY AND CONFIDENTIAL. AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS  
NOT TO BE USED FOR ANY PURPOSES OR FORMS OR COMMUNICATIONS TO ANY OTHER PERSON WITHOUT  
WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.





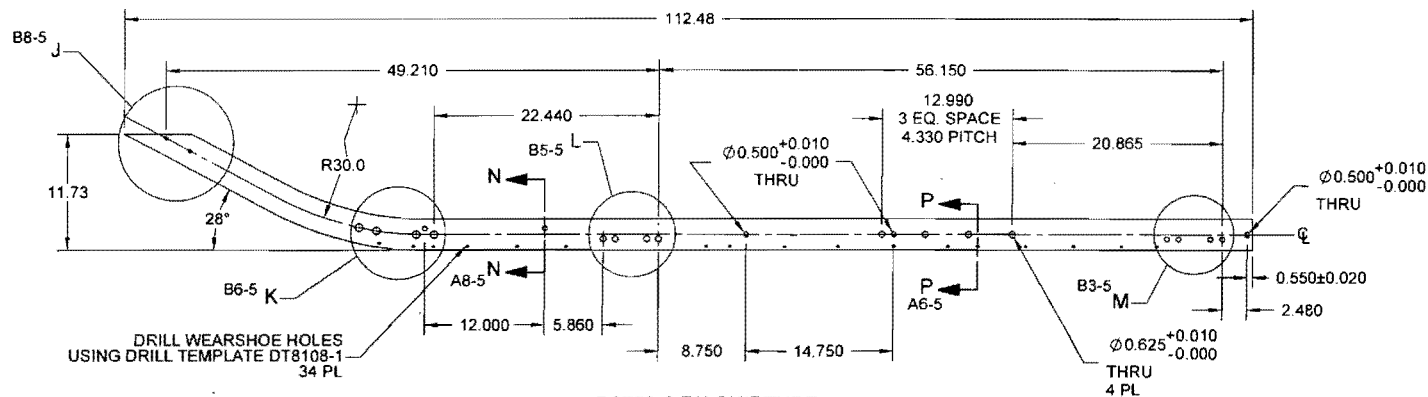
D2750-043 350 SKIDTUBE ASSEMBLY, LH

D2750-044 350 SKIDTUBE ASSEMBLY, RH

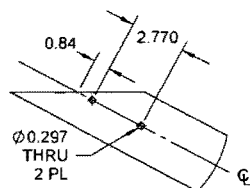
RELEASED  
68-09-22/17

DESIGN	PD	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	PD	PORT HADLOCK, WA	
CHECKED	JA	DRAWING NO.	REV. F
MFG. APPR.	JA	D2750	SHEET 3 OF 11
APPROVED	JA	TITLE	SCALE
DE APPR.	JA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

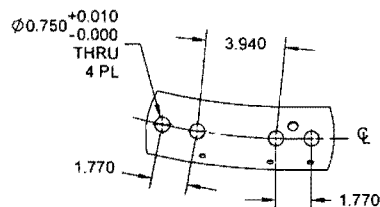




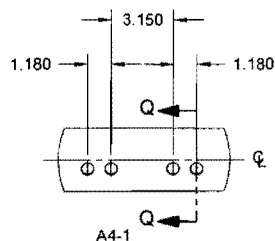
**D2750-2 RH SKIDTUBE**



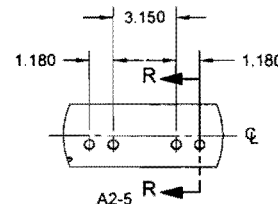
**DETAIL J**  
SCALE 2X



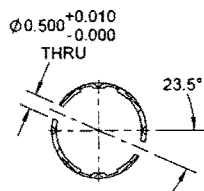
**DETAIL K**  
SCALE 2X



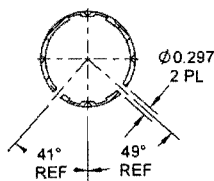
**DETAIL L**  
SCALE 2X



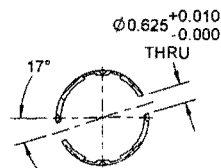
**DETAIL M**  
SCALE 2X



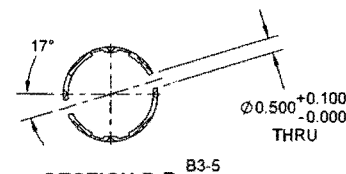
**SECTION N-N**  
SCALE 3X, 2 PL



**SECTION P-P**  
SCALE 3X, 17 PL



**SECTION Q-Q**  
SCALE 3X, 4 PL



**SECTION R-R**  
SCALE 3X, 4 PL

**RELEASED**

DESIGN		<b>DART AEROSPACE USA, INC.</b>	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO. <b>D2750</b>	REV. F
MFG. APPR.		TITLE <b>350 SKIDTUBE ASSEMBLY</b>	SHEET 5 OF 11
APPROVED		SCALE	NTS
DE APPR.		COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.	
DATE	08.07.16	THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



8

7

6

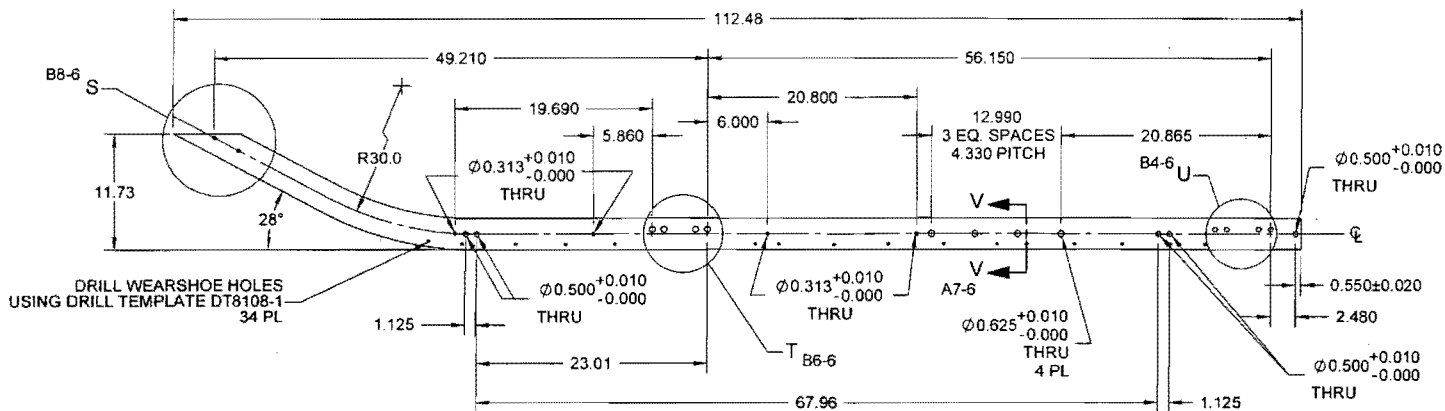
5

4

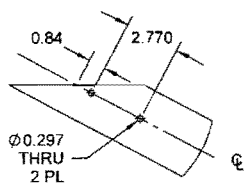
3

2

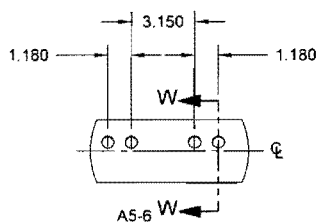
1



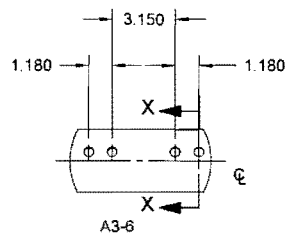
### D2750-3 LH SKIDTUBE



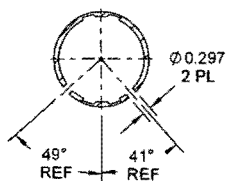
DETAIL S  
D8-6  
SCALE 2X



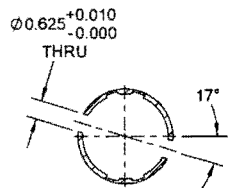
DETAIL T  
C5-6  
SCALE 2X



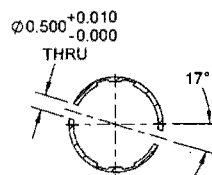
DETAIL U  
D3-6  
SCALE 2X



SECTION V-V  
C4-6  
SCALE 3X, 17 PL



SECTION W-W  
B6-6  
SCALE 3X, 4 PL



SECTION X-X  
B4-6  
SCALE 3X, 4 PL

RELEASED  
08-07-16

DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 6 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESSED CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8

7

6

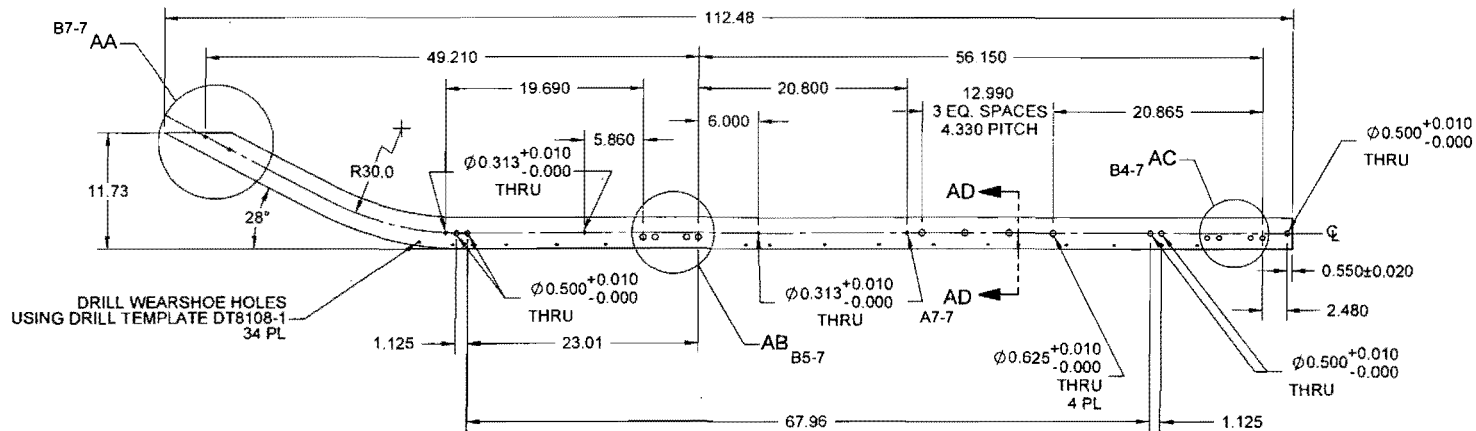
5

4

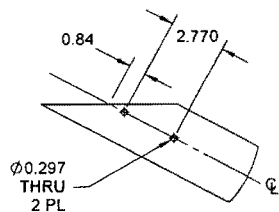
3

2

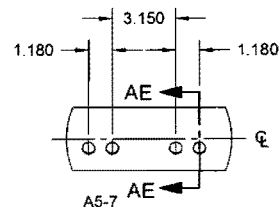
1



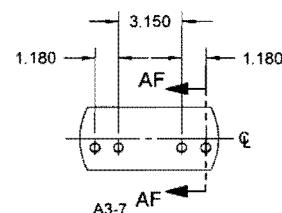
# **D2750-4 RH SKIDTUBE**



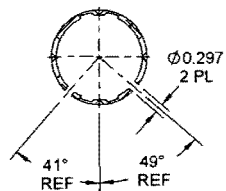
**DETAIL AA**  
SCALE 2X



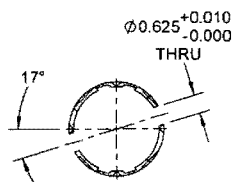
**DETAIL AB**  
SCALE 2X



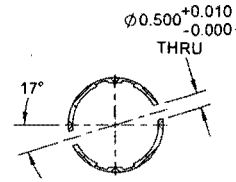
**DETAIL AC**  
SCALE 2X



**SECTION AD-AD**  
SCALE 3X, 17 PL









**SECTION AE-AE**  
SCALE 3X, 4 PL



**SECTION AF-AF**  
SCALE 3X, 4 PL

**RELEASED**

DESIGN		<b>DART AEROSPACE USA, INC.</b>	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		<b>D2750</b>	SHEET 7 OF 11
APPROVED		TITLE	SCALE
DE APPR.		<b>350 SKIDTUBE ASSEMBLY</b>	NTS
DATE	<b>08.07.16</b>	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

